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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/753,011 01/02/01 NARAYANAN

S 10200/88

EXAMINER

000757 MMC2/1003
BRINKS HOFER GILSON & LIONE
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TONES, J.

ART UNIT

PAPER NUMBER

2812

DATE MAILED:

10/03/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

| | | |
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| Office Action Summary | Application No. | Applicant(s) |
| | 09/753,011 | NARAYANAN, SUNDAR |
| | Examiner Joseetta I. Jones | Art Unit 2812 |
| -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -- | | |
| Period for Reply | | |
| A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. | | |
| <ul style="list-style-type: none"> - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). | | |
| Status | | |
| 1) <input type="checkbox"/> Responsive to communication(s) filed on ____. | | |
| 2a) <input type="checkbox"/> This action is FINAL . 2b) <input checked="" type="checkbox"/> This action is non-final. | | |
| 3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213. | | |
| Disposition of Claims | | |
| 4) <input checked="" type="checkbox"/> Claim(s) <u>1-22</u> is/are pending in the application. | | |
| 4a) Of the above claim(s) ____ is/are withdrawn from consideration. | | |
| 5) <input type="checkbox"/> Claim(s) ____ is/are allowed. | | |
| 6) <input checked="" type="checkbox"/> Claim(s) <u>1,2,12,13 and 20</u> is/are rejected. | | |
| 7) <input type="checkbox"/> Claim(s) <u>3-11, 14-19, 21 and 22</u> is/are objected to. | | |
| 8) <input type="checkbox"/> Claim(s) ____ are subject to restriction and/or election requirement. | | |
| Application Papers | | |
| 9) <input type="checkbox"/> The specification is objected to by the Examiner. | | |
| 10) <input type="checkbox"/> The drawing(s) filed on ____ is/are: a) <input type="checkbox"/> accepted or b) <input type="checkbox"/> objected to by the Examiner. | | |
| Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). | | |
| 11) <input type="checkbox"/> The proposed drawing correction filed on ____ is: a) <input type="checkbox"/> approved b) <input type="checkbox"/> disapproved by the Examiner. | | |
| If approved, corrected drawings are required in reply to this Office action. | | |
| 12) <input type="checkbox"/> The oath or declaration is objected to by the Examiner. | | |
| Priority under 35 U.S.C. §§ 119 and 120 | | |
| 13) <input type="checkbox"/> Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). | | |
| a) <input type="checkbox"/> All b) <input type="checkbox"/> Some * c) <input type="checkbox"/> None of: | | |
| 1. <input type="checkbox"/> Certified copies of the priority documents have been received. | | |
| 2. <input type="checkbox"/> Certified copies of the priority documents have been received in Application No. ____. | | |
| 3. <input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). | | |
| * See the attached detailed Office action for a list of the certified copies not received. | | |
| 14) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). | | |
| a) <input type="checkbox"/> The translation of the foreign language provisional application has been received. | | |
| 15) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. | | |
| Attachment(s) | | |
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | | |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | | |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | | |
| 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) ____. | | |
| 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) | | |
| 6) <input type="checkbox"/> Other: ____. | | |

Drawings

Figures 1-5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 10-289990.

With regard to claim 1, JP 10-289990 discloses forming an isolation region in a semiconductor substrate (see figure 3b); wherein a first oxide layer is on said substrate (see column 12, line 44); a first sacrificial layer is on said first oxide layer (see figure 3a), and a first nitride layer is on said first sacrificial layer (see figure 3a).

With regard to claim 2, JP 10-289990 discloses wherein a second sacrificial layer is between said first sacrificial layer and said first oxide layer (see figure 3a).

With regard to claim 12, JP 10-289990 discloses removing a first nitride layer and a first sacrificial layer (see figure 3d); wherein a first oxide layer is on a substrate (see 3a), said first sacrificial layer is on said first oxide layer (see figure 3a), and said first nitride layer is on said first sacrificial layer (see figure 3a).

With regard to claim 13, JP 10-289990 discloses wherein a second sacrificial layer is between said first sacrificial layer and said first oxide layer (see figure 3a).

Claim 20 is rejected under 35 U.S.C. 102(b) as being anticipated by Lee, U.S. Patent No. 5,994,201.

Lee discloses forming an isolation nitride on a substrate, the improvement comprising a first sacrificial layer between said isolation nitride and said substrate (see figure 1a and column 1, lines 45-52).

Allowable Subject Matter

Claims 2-11, 14-19 and 21-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to disclose wherein said first sacrificial layer comprises silicon oxide, said second sacrificial layer comprises silicon nitride, said isolation region comprises an oxide, and said substrate comprises silicon; removing said second sacrificial layer, and wherein said first sacrificial layer comprises silicon oxide, said second sacrificial layer comprises silicon nitride, said isolation region comprises an oxide, and said substrate comprises silicon; and forming a second sacrificial layer between said first sacrificial layer and said substrate.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kido, et al., U.S. Patent No. 6,274,434; Omid-Zohoor et al., U.S. Patent No. 6,274,419; Wu et al., U.S. Patent No. 6,187,650; Duinkerken et al., U.S. Patent No. 5,661,091.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Josetta I. Jones whose telephone number is 703-308-5871. The examiner can normally be reached on M-F 9:00-6:30 and alternating Fridays 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John F. Niebling can be reached on 703-308-3325. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3432 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Josetta I. Jones
September 27, 2001



John F. Niebling
Supervisory Patent Examiner
Technology Center 2800